



INFINITI®

SERVICE BULLETIN

Classification:

AT01-006

Reference:

ITB01-074

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Date:

December 18, 2001

2002 Q45; TRANSMISSION MANUAL MODE INOPERATIVE (DTC P1815-MANU MODE S/W/CIRC)

Qced SC

APPLIED VEHICLE(S): 2002 Q45 (F50)

MAR 20 2002

APPLIED VIN(S): JNKBF01A82M006024 and

Built between JNKBF01A*2M006030 and JNKBF01A*2M007550

APPLIED DATE(S): Built between June 25, 2001 and September 27, 2001

SERVICE INFORMATION

If an applied vehicle has the following symptoms:

- Transmission manual mode is inoperative,
- Transmission indicator light in instrument panel shows "D" instead of "4",
- Manual mode operates normally after the ignition is turned off and,
- CONSULT-II indicates A/T Diagnostic Trouble Code P1815.

Reprogram the Transmission Control Module (TCM) to correct these symptoms, should they occur. Refer to the Service Procedure in this bulletin for instructions on how to reprogram the Transmission Control Module (TCM).

SERVICE PROCEDURE

1. Verify the Diagnostic Trouble Code.
2. Check the condition of the vehicle battery.
 - Refer to Technical Service Bulletin ITB99-036b (Infiniti Battery/Starting/Charging System Tester) for diagnosing the condition of the battery.
 - Replace it if necessary.
3. Determine the TCM part number. The TCM part number is found by CONSULT-II TCM P/N Selection.
4. Refer to Chart A below. Does the vehicle's TCM P/N match those shown under Current TCM Part Number?
 - If YES, proceed to step 5.
 - If NO, refer to ESM for diagnosing DTC P1815.

CHART A

Vehicle	Current TCM Part Number	New TCM Part Number
2002 Q45	31036-AR101	31036-AR102

5. Perform TCM reprogramming to update the TCM data to the new Part Number and TCM initialization.
 - Click [here](#) to link to the "TCM Reprogramming For Infiniti Vehicles" general procedure.
 - Or refer to Attachment A in the print copy of this bulletin.

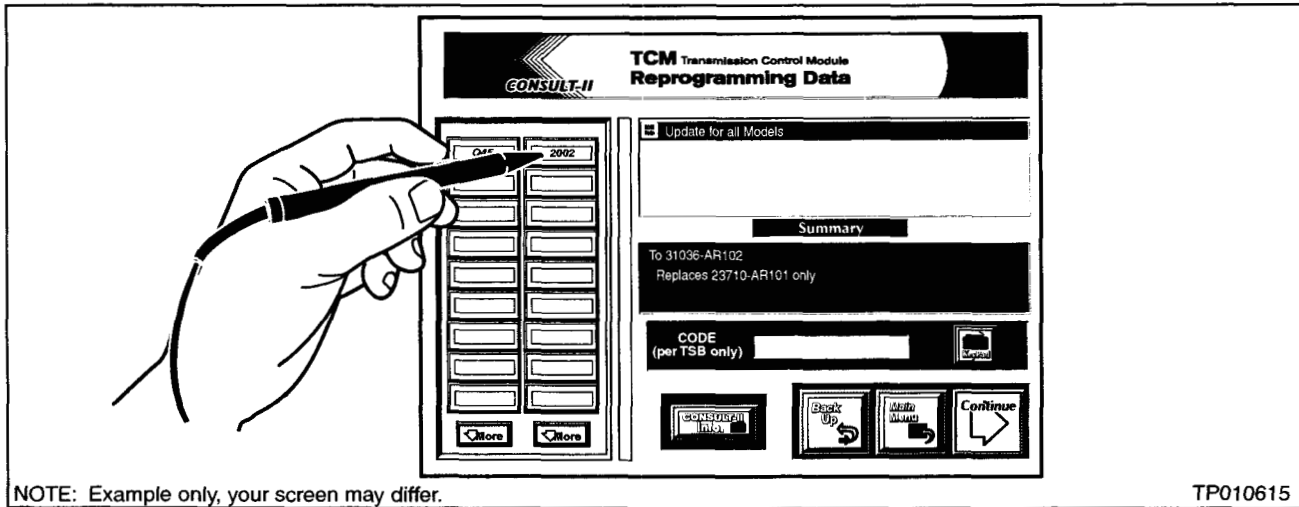


Figure 1

CLAIMS INFORMATION

Submit a Primary Failed Part (PP) line claim using the following claims coding:

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
Reprogram TCM (1)	(2)	JE99AA	(3)	32	0.6 hrs

1. Includes CONSULT-II hook-up and final road-test time allowances.
2. Reference the final CONSULT II "ECU Reprogramming" printout and use the indicated new P/N as the PFP.
3. As per the client's complaint.

TRANSMISSION CONTROL MODULE (TCM) REPROGRAMMING

SERVICE PROCEDURE

TCM Reprogramming involves three general steps:

- Download the TCM Reprogramming data from ASIST to CONSULT-II
- Use CONSULT-II (with Reprogramming Card) to install the TCM Reprogramming data into the vehicle
- Use CONSULT-II (with Diagnostics card) to "Initialize" the vehicle's TCM

Download TCM Reprogramming data from ASIST to CONSULT-II

1. Install the ECU Reprogramming Software Card (orange) into slot A of CONSULT-II.
- 2a. Connect the AC power supply to CONSULT-II.
- 2b. Connect CONSULT-II to the ASIST PC with the special Ethernet cable (P/N 02002554, printed on the cable) contained in the CONSULT-II kit.
 - Connect the special Ethernet cable to CONSULT-II at the "PC port" located at the bottom end of the CONSULT-II unit
 - Connect the special Ethernet cable to the ASIST PC by connecting it to the "Ethernet card" connection port located on the back of the computer

NOTE: DO NOT USE the network cable attached to the Infinitinet network.

3. Confirm the CONSULT-II date and time is correctly set as follows:
 - A. With the ECU Reprogramming Software card in slot 1, turn on CONSULT-II.
 - B. Touch **"Sub Mode"**.
 - C. Touch **"Set Date"**.
 - If date is not correct, touch the month, day or year as needed. Then adjust it by using arrow keys. Once done, press **"Save"**, press **"Back"** and go to step D.
 - If date is OK, press **"Back"** and go to step D.
 - D. Touch **"Set Time"**.
 - If time is not correct, touch the hour, minute or AM/PM as needed. Then adjust it by using arrow keys. Once done, press **"Save"**, press **"Back"** and go to step 4.
 - If time is OK, press **"Back"** and go to step 4.

4. Confirm the Ethernet communication between ASIST and CONSULT-II.

NOTES:

- If your ASIST terminal has not been used to perform ECU reprogramming before: Go to ASIST and refer to "**CONSULT-II Info**" under CONSULT Utilities to set it up for "Ethernet" communication.
 - If your ASIST terminal has been used to perform ECU re-programming before, proceed to step 5.
5. Launch ASIST. From the ASIST PC main menu screen, select "**CONSULT Utilities**".
6. From the "**CONSULT Utilities**" screen, select "**TCM Data**".
7. The "**TCM Data Reprogramming**" screen will be displayed (see Figure 1):

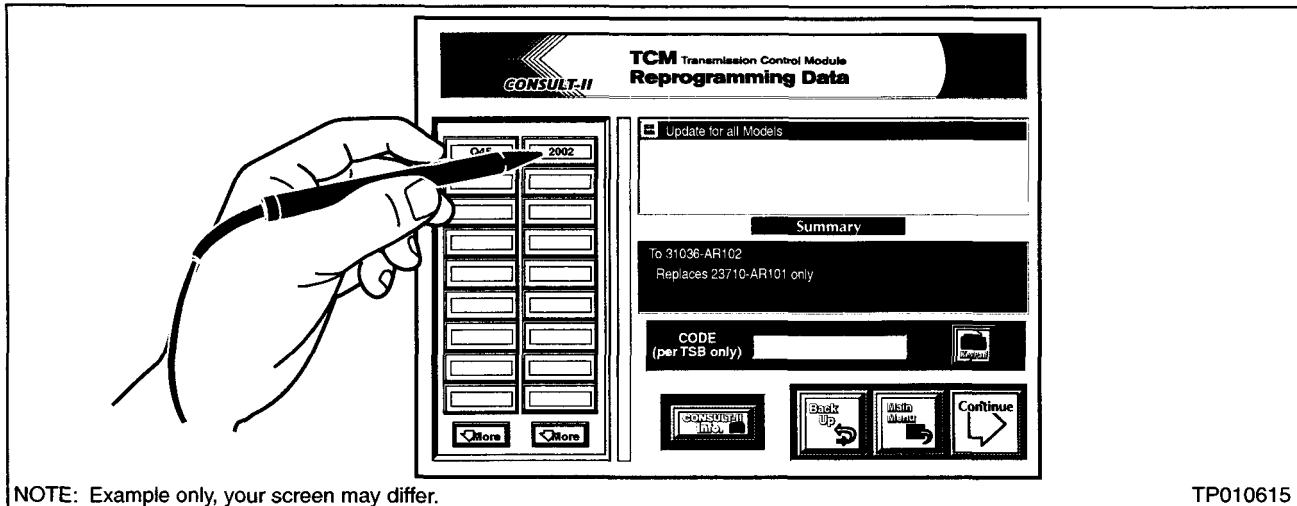


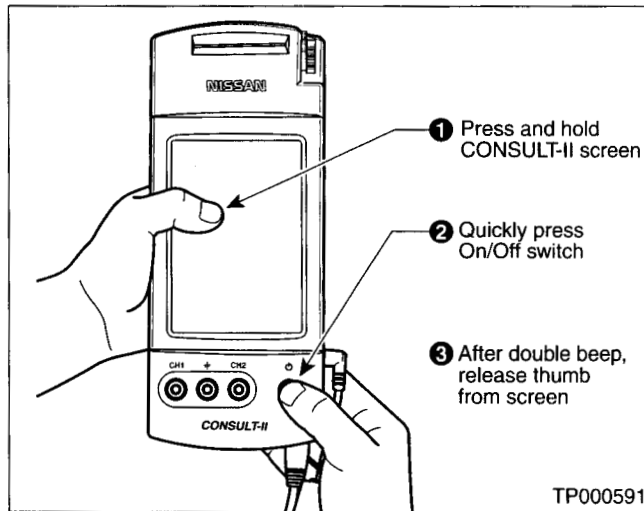
Figure 1

- A. Select model and model year for the applied vehicle.
- B. Select the applicable vehicle configuration for your vehicle from that listed in the upper right TCM data description window.
- If there is only one item listed, go to step C.
- If multiple selections are listed, select the applicable vehicle configuration then go to step C.
- C. Click the "**Continue**" button on the TCM Data Reprogramming screen to proceed to CONSULT-II setup.

8. Turn on CONSULT-II as follows to access the file transfer mode:
- A. While pressing on the CONSULT-II screen with your thumb, quickly depress and release the ON/OFF switch (see Figure 2).

NOTE: A double-beep will sound after the ON/OFF switch is quickly depressed and released.

Release your thumb from the screen after a double-beep sound is heard.



- B. Select **"Transfer files via LAN"**. Set the CONSULT-II unit down for now.

NOTE: If you accidentally choose a menu option other than **"Transfer Files via LAN"**, turn CONSULT-II off and restart it according to step 8A above.

9. On ASIST, verify that the IP address in the **"Change IP Address"** box is correct, then select **"Continue"**.

NOTE: If the IP Address (for CONSULT-II) displayed in the **"Change IP Address"** box is not correct, turn CONSULT-II off and refer to **"CONSULT-II Info"** for additional information.

10. Data transfer will take about 1 minute and the progress of the transfer is displayed on the ASIST PC screen (see Figure 3). Wait until the data transfer is complete (see **CAUTION**, below).

CAUTION: DO NOT DISCONNECT THE ETHERNET CABLE UNTIL "COMPLETE" IS DISPLAYED AS SHOWN IN FIGURE 3. If the cable is disconnected before **"Complete"** is displayed you **MUST** restart the download procedure. Otherwise TCM damage can occur.

If the cable is disconnected during the transfer; close ASIST, push **"Control/Alt/Delete"** and select **"End Task"**. Then return to step 5 on page 2.

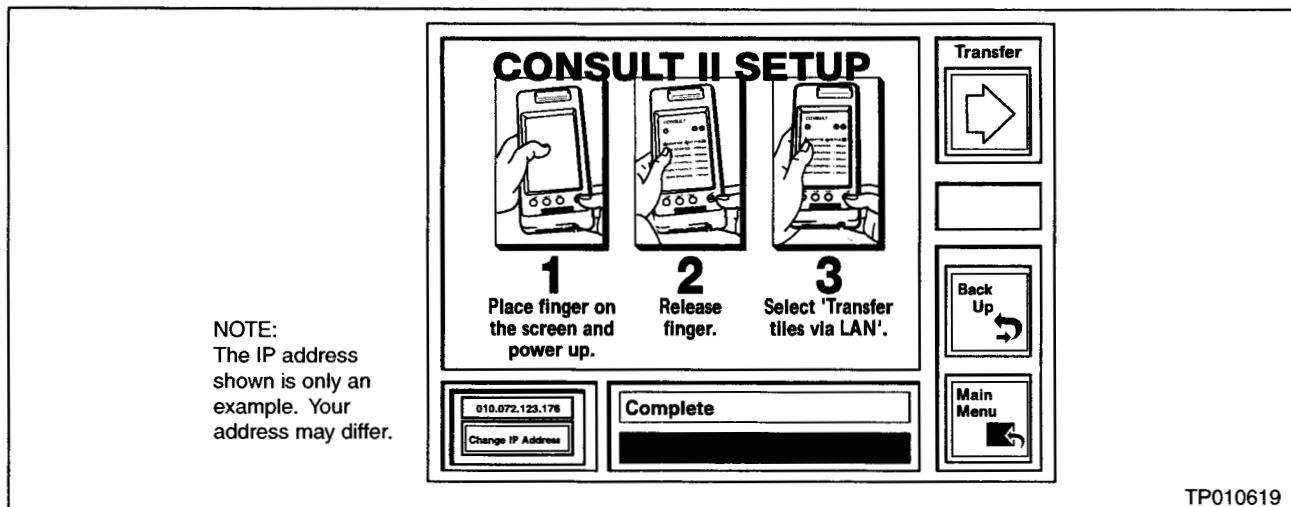


Figure 3

11. When transfer is complete select the **"Main Menu"** button on ASIST. Turn off CONSULT-II and disconnect the AC power cord and the Ethernet cable from CONSULT-II.

Use CONSULT-II to Install TCM Reprogramming data into the vehicle TCM

CAUTION: Perform this operation in four steps. DO NOT SKIP any of these steps.

- Step 1:** Check for DTC's in the ECM & TCM (Diagnostics card)
- Step 2:** Confirm the CONSULT-II and vehicle battery voltage (Diagnostics card) is sufficient
- Step 3:** Perform TCM Reprogramming (Reprogramming card)
- Step 4:** Perform TCM Initialization Procedure (Diagnostics card)

Step 1: Check for DTCs in the ECM & TCM

12. Connect CONSULT-II to the vehicle using the DLC-II cable.
13. Remove the ECU Reprogramming card from slot A of CONSULT-II and install the Diagnostics (red/white) card into slot A.
 - CAUTION:** Do not use slot B (bottom slot).
14. Turn **"ON"** the ignition switch. CONSULT-II will turn on automatically.
15. Press **"START"** and select **"ENGINE"**.
16. Press **"SELF DIAG RESULTS"** and confirm that no DTC(s) exist.
 - If no DTCs exist, proceed to step 17
 - If DTCs exist, print them, then erase the DTCs and proceed to step 17
17. Press **"BACK"** two times (2x)
18. Press **"VDC"**.
19. Press **"SELF DIAG RESULTS"** and confirm that no DTC(s) exist.
 - If no DTCs exist, proceed to step 20
 - If DTCs exist, print them, then erase the DTCs and proceed to step 20
20. Press **"BACK"** two times (2x)
21. Press **"START"** and select **"AT"**.

22. Press **"SELF-DIAG RESULTS"** and confirm that no DTCs exist.

- If no DTCs exist, proceed to step 23
- If DTCs exist:
 - A. Print the DTC(s)
 - B. Press **"FF DATA"**, select **"PRINT"**, then attach the **"FF DATA"** print out to the repair order.
 - C. Press **"BACK"** (1x), erase the DTC(s), then proceed to step 23

NOTE: Additional repairs may be necessary if the DTC's are not associated with a Reprogramming bulletin. Refer to the appropriate Service Manual.

23. Press **"BACK"** three times (3x) to return to the CONSULT-II main menu, then turn the ignition switch OFF.

Step 2: Confirm CONSULT-II Battery Voltage

24. Disconnect CONSULT-II from the vehicle and the AC/DC power cord.

25. Press **"SUB MODE"**, then select **"BATTERY CHARGE"**.

26. After about one minute has passed, check the CONSULT-II's battery voltage reading on the CONSULT-II screen (see Figure 4).

NOTE: CONSULT-II's battery voltage is called **"BATTERY VOLTAGE"**.

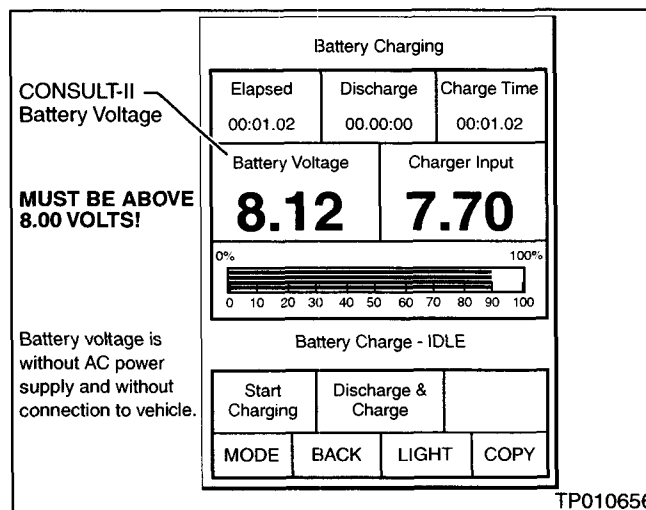


Figure 4

A. If CONSULT-II's battery voltage ("Battery Voltage") is less than 8 volts:

- Turn OFF CONSULT-II
- Charge the CONSULT-II battery before proceeding with TCM Reprogramming

OR

- Connect the AC/DC power supply cord to CONSULT-II during the reprogramming procedure

B. If CONSULT-II's battery voltage ("Battery Voltage") is more than 8 volts, proceed with the following step.

CAUTION: Do not attempt TCM Reprogramming if the CONSULT-II battery voltage is below the specified voltage. Permanent TCM damage can occur if the battery does not maintain the minimum voltage during the TCM Reprogramming.

Step 2a: Confirm Vehicle Battery Voltage

27. Connect CONSULT-II to the vehicle making sure the connector is fully plugged in.
28. Turn the ignition switch **ON** (DO NOT start the vehicle).
29. After about one minute has passed, check the vehicle's battery voltage reading on the CONSULT-II screen (see Figure 5).

NOTE: The vehicle's battery voltage is called "Charger Input".

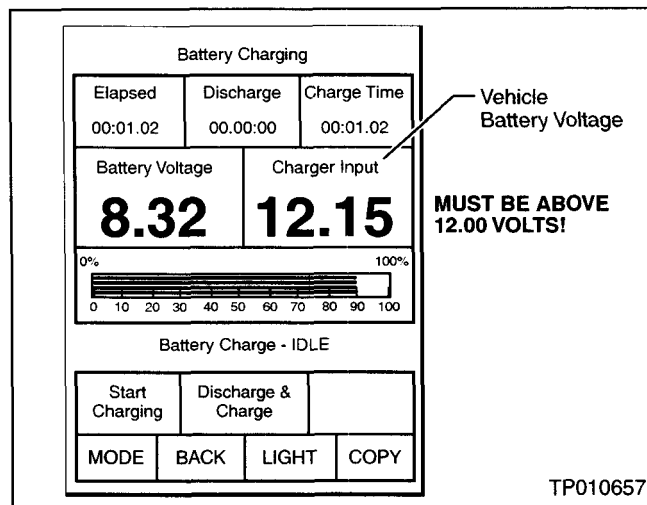


Figure 5

- A. If the vehicle's battery charge ("Charger Input") is less than 12.0 volts:
 - Press "**BACK**" (2x) to go back to the main menu
 - Charge the battery properly/replace it before proceeding with TCM Reprogramming

OR

 - Trickle charge the battery during the reprogramming procedure
- B. If the vehicle's battery charge ("Charger Input") is more than 12.0 volts, proceed with the following step.

CAUTION: Do not attempt TCM Reprogramming if the vehicle battery voltage is below the specified voltage. Permanent TCM damage can occur if the battery does not maintain the minimum voltage during the TCM Reprogramming.

Step 3: TCM Reprogramming

30. Turn the vehicle's ignition switch "**OFF**" and CONSULT-II off.
31. Remove the Diagnostics (red/white) card from slot A of CONSULT-II and install the ECU Reprogramming card (orange) into slot A.

CAUTION: Do not use slot B (bottom slot).

32. **Make sure the DLC-II cable is firmly plugged into the vehicle harness** (see **CAUTION** below). Turn "**ON**" the ignition switch (do not start the engine). CONSULT-II will turn on automatically (see Figure 6).

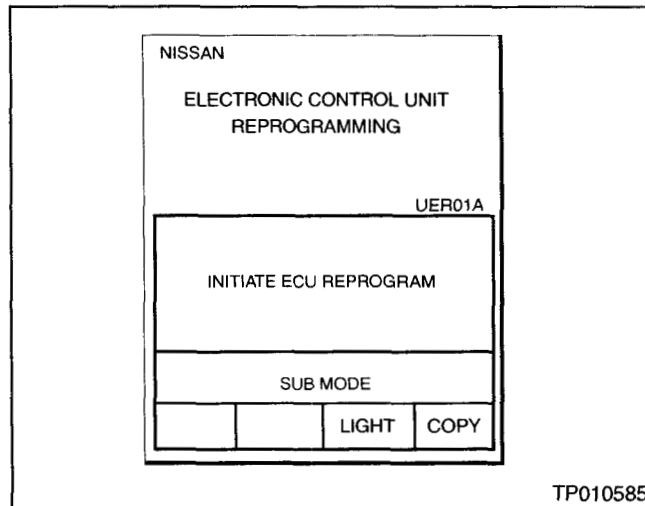


Figure 6

33. Confirm that all electrical loads (except for the ignition) such as headlights, display screen, defroster, A/C, Audio (radio), cellular telephone (if applicable) are "**OFF**".

CAUTION: Do not unplug CONSULT-II from the vehicle while Reprogramming TCM. Do not attempt TCM Reprogramming with any vehicle electrical loads "ON" except for the ignition. Permanent TCM damage can occur.

34. Confirm the shift lever is in the **Park ("P")** position.

35. Roll down the driver's window part way, exit the vehicle, close the door and hang the CONSULT-II unit on the outside of the window (see Figure 7).

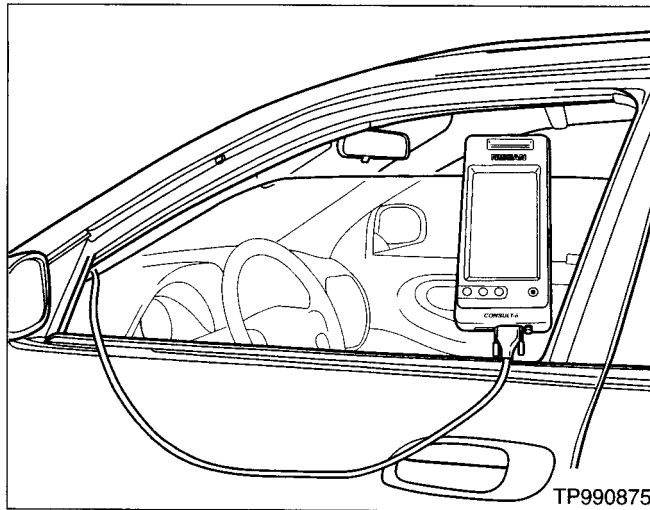


Figure 7

CAUTION: Do not open the vehicle doors, trunk, or hood during the reprogramming.

36. Press “Initiate ECU Reprogram” (see Figure 8), then do the following:

- Press “TCM”
- Review the precaution
- Press “Next”

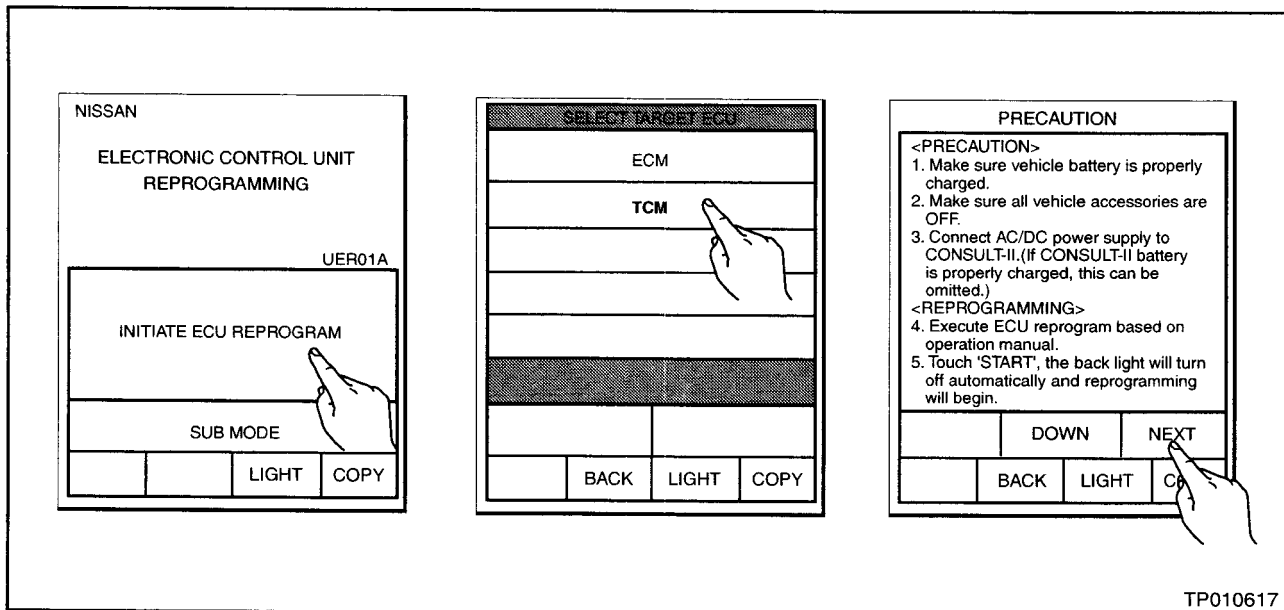


Figure 8

37. Press **"CHECK TCM P/N"** to confirm (i.e., take note of) the current TCM part number on the vehicle to be reprogrammed (see Figure 9).

NOTE: This is the vehicle's TCM part number **BEFORE** Reprogramming.

ECU REPROGRAMMING			
CURRENT ECU INFORMATION			
PART NUMBER	31036-AR101		
MODE	BACK	LIGHT	COPY

NOTE:
These numbers
are only examples.
Your numbers
will differ.

TP010658

Figure 9

38. Press **"COPY"** to print the current TCM part number for future reference.
39. Press **"BACK"** (1x).
40. Select the correct TCM program to install from the choices on the CONSULT-II screen (see Figure 10).

SELECT TCM PROGRAM			
To 31036-AR102 F50 Fed.			
		DOWN	
	BACK	LIGHT	COPY

NOTE:
These numbers
are only examples.
Your data will differ.

NOTE:
"DOWN" will
not appear on
all models.

TP010675

Figure 10

41. The "REPROGRAM START" window should appear (see Figure 11).

NOTE: Refer to the ECU Reprogramming Software Operations Manual for instructions on error messages.

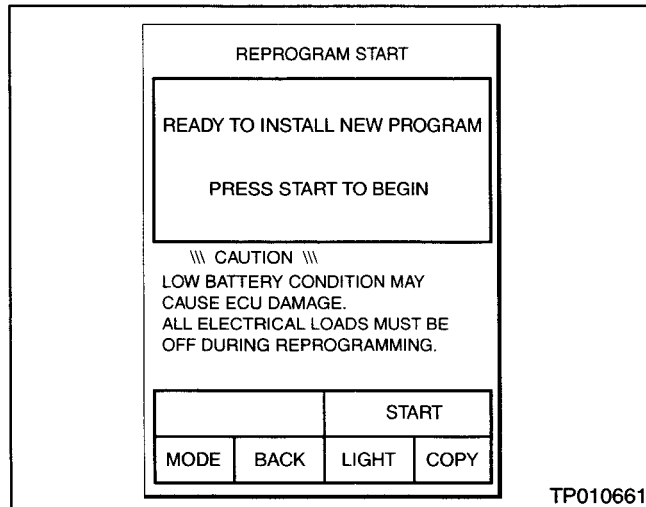


Figure 11

42. Press "**START**". After a moment the window shown in Figure 12 will appear. CONSULT-II will now turn off its screen backlight and reprogram the TCM.

NOTE: This process will take about 10 minutes.

CAUTION: Leave the vehicle and the CONSULT-II unit undisturbed until Reprogramming is complete.

When the Reprogramming is complete, CONSULT-II will "beep", turn the screen backlight back on and automatically print out a report.

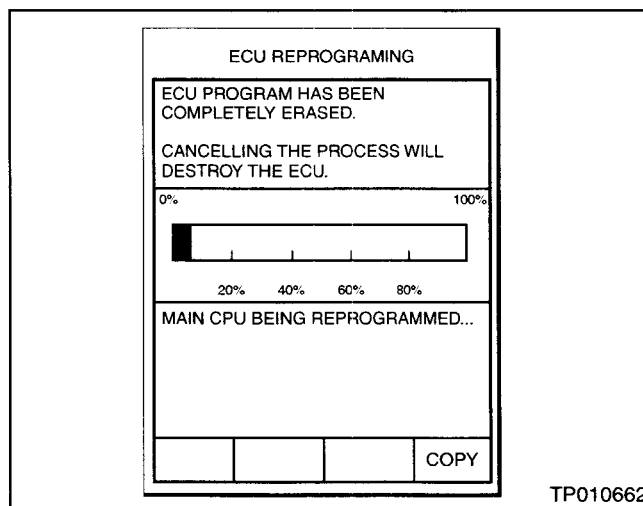


Figure 12

CAUTION: If CONSULT-II prints "REPROGRAMMING UNEXPECTEDLY TERMINATED", the TCM has been permanently damaged and will require replacement. Perform steps A through D below.

- Turn the ignition key "**OFF**", turn CONSULT-II "**OFF**" and DISCONNECT THE NEGATIVE TERMINAL OF THE VEHICLE BATTERY (Do not start the vehicle with the damaged TCM installed).
- Remove the damaged TCM from the vehicle.
- Attach the CONSULT-II printout to the repair order for future reference.
- Replace the damaged TCM and return to step 5 on page 2 of this bulletin, **being careful to follow each step exactly as written.**

43. Once TCM Reprogramming is done, CONSULT II will print out a report (see Figure 13). Attach this to the repair order for future reference.

<p>ECU REPROGRAMMING</p> <p>12/01/2001 0:53</p> <p>REPROGRAMMING HAS BEEN COMPLETED.</p> <p>PART NUMBER</p> <p>31036-AR102</p> <p>PART NUMBER OF OLD</p> <p>31036-AR101</p>	<p>NOTE:</p> <p>These numbers are only examples. Your numbers will differ.</p>
TP010663	

Figure 13

44. Press **"END"** to return to the main menu. Enter the vehicle and turn the ignition switch **"OFF"** and CONSULT-II off.

Step 4: TCM Initialization Procedure (red/white card)

CAUTION: This procedure **MUST** be performed carefully and exactly as specified in the following steps. Failure to correctly complete TCM Initialization can result in improper A/T shifting.

45. Remove the ORANGE reprogram card from CONSULT-II and insert the RED diagnostic card.
46. Confirm the shift lever is in the **Park ("P")** position, turn the ignition key to the **ON** position (do not start), and then wait for CONSULT-II to "boot up".
47. Press:
- **START**
 - **A/T**
 - **ECU Part Number**
48. Confirm that the new TCM part number is displayed.
49. Press:
- **BACK (1x)**
 - **SELF DIAG RESULTS**

WARNING: The following steps are performed with the ignition key in the ON position but with the engine OFF (i.e., engine NOT running).

50. Depress the brake pedal and move the shift lever to the **Reverse ("R")** position.

51. Release the brake pedal and fully depress the accelerator pedal.

52. With the accelerator pedal fully depressed:

- Press "**ERASE**"
- Press "**YES**"
- Wait 10 seconds
- Press "**BACK**" (1x)

53. Release the accelerator pedal and turn the ignition key to the **OFF** position.

NOTE: The ignition key does NOT need to be in the ON position in order to move the shift lever back to the Park "**P**" position (as directed in the next step).

54. Depress the brake pedal and move the shift lever to the **Park ("P")** position.

NOTE: During the next step you need to determine how long it takes for the "**P**" indicator (see Figure 14) to illuminate after the ignition key is turned to the **ON** position. It will either take one second or three seconds.

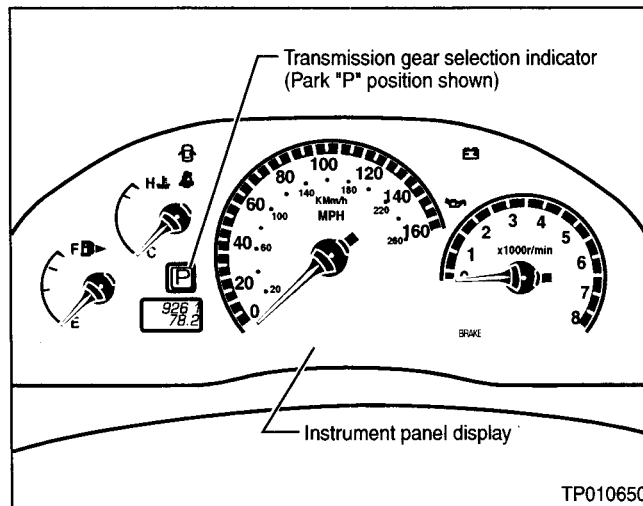


Figure 14

55. Release the brake pedal, watch the A/T gear selection indicator on the instrument panel display, and turn the ignition key to the **ON** position.

A. If the "**P**" illuminates immediately (1 second) after the ignition key is turned ON, go back to step 49 and start over from the second bullet point.

B. If the "**P**" illuminates 3 seconds after the ignition key is turned ON, proceed with step 56.

56. Press:

- **DATA MONITOR**
- **SELECTION FROM MENU**

57. Scroll down and select the following items (see Figure 15):

- C/V CLB ID1
- C/V CLB ID2
- C/V CLB ID3
- UNIT CLB ID1
- UNIT CLB ID2
- UNIT CLB ID3

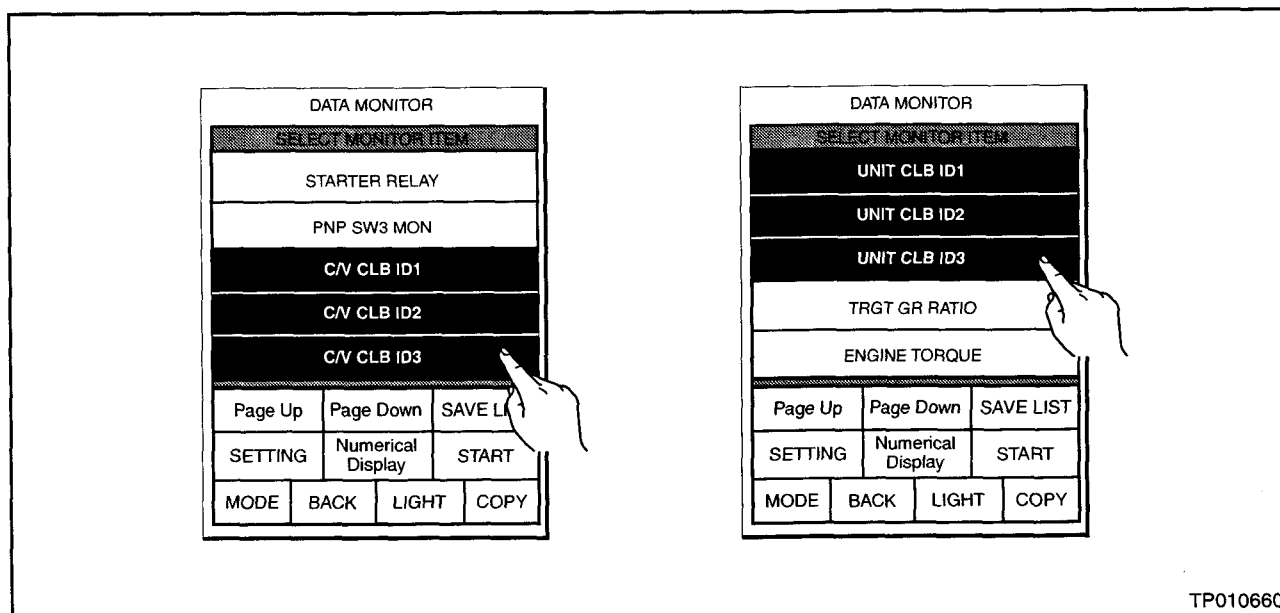


Figure 15

58. Press "START"

59. Confirm the status of the codes (see Figure 16):

- If **ALL** the codes (i.e., the codes listed in step 57) have a code status of "00" or "FF", press **BACK (3x)**, then go back to step 49 and start over from the second bullet point.
- If "00" or "FF" **DO NOT** appear, proceed with step 60.

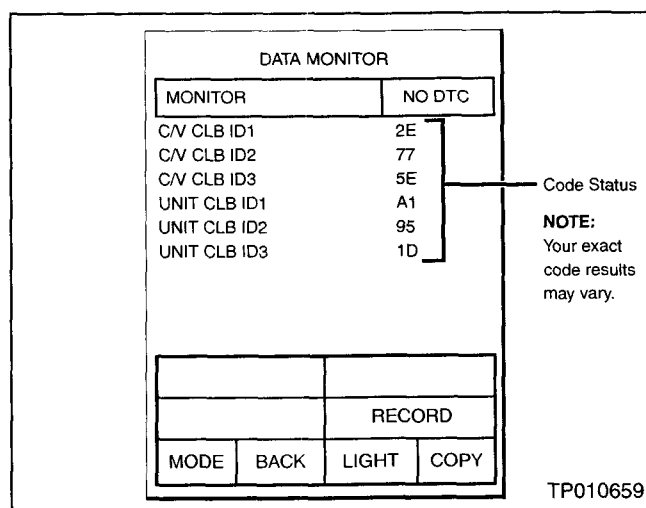


Figure 16

60. Press:

- **COPY**
- **BACK (4x)**

61. Depress the brake pedal and move the shift lever from “**P**” to “**R**” to “**N**” to “**D**”, making sure the indicator next to the speedometer (see Figure 14) correctly displays each selected shift lever position.

- A. If the indicator (next to the speedometer) does NOT correctly display each of the selected shift lever positions, go back to step 46 and start over.
- B. If the indicator (next to the speedometer) correctly displays each of the selected shift lever positions, proceed to step 62.

62. Move the shift lever back from “**D**” to “**N**” to “**R**” to “**P**”, making sure the indicator next to the speedometer (see Figure 14) correctly displays each selected shift lever position.

63. Press:

- **ENGINE**
- **SELF DIAG RESULTS**

64. Check the status of any stored **ENGINE** DTC code(s):

- A. If no DTC(s) is stored or one or more of the following code(s) is stored, proceed with step 65.
 - P0120, P0505, P0605, P1065, P1123, P1212, U1000, or VDC 12
- B. If a DTC(s) other than the codes listed above is stored:
 - Print out the stored DTC(s)
 - Print out the freeze frame data
 - Proceed with diagnosis according to the applicable Service Manual

65. Press:

- **ERASE**
- **YES**
- **BACK (2x)**
- **VDC**
- **SELF DIAG RESULTS**

66. Check the status of any stored **VDC** DTC code(s):

- A. If no DTC(s) is stored or one or more of the following code(s) is stored, proceed with step 67.
 - P0120, P0505, P0605, P1123, P1212, U1000, or VDC 12
- B. If a DTC(s) other than the codes listed above is stored:
 - Print out the stored DTC(s)
 - Print out the freeze frame data
 - Proceed with diagnosis according to the applicable Service Manual

67. Press:

- **Erase**
- **Yes**

68. Turn the ignition key to the **OFF** position, and disconnect CONSULT-II.

69. Road test the vehicle with 1/8 throttle application (under 2000 RPM) and confirm the transmission properly up-shifts from 1st to 2nd, 2nd to 3rd, 3rd to 4th, and 4th to 5th.

- If shifting does not properly occur, perform further diagnosis using CONSULT-II.



